

PR4



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/228,087	01/11/1999	BALLARD C. BARE	10980015-1	7323

7590 12/04/2002
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EXAMINER

HARPER, KEVIN C

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PR4

Office Action Summary

Application No.

09/228,087

Applicant(s)

BARE, BALLARD C.

Examiner

Kevin C. Harper

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2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20, 22, 23, 25 and 26 is/are rejected.
- 7) ☒ Claim(s) 21 and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Response to Arguments

Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

1. The drawings are objected to because the following items require descriptive wording:

Figure 31, item 3106, one of items 3100-3104 and one of items 3110-3134);

Figure 32, items 3200, 3206-3208 and 3212-3216, one of items 3222, 3230 and

3238, one of items 3224, 3232 and 3240 and one of items 3226, 3234 and 3242.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. (Note: Figure 31, one of items 3100-3104 should be labeled "load balance domain" and one of items 3110-3134 should be labeled "switch")

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 11, 16, 22-23 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst et al. (US 6,151,633).

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2. Regarding claims 1, 6, 11, 16, 22 and 25, Hurst discloses a method of managing a multicast tree comprising the steps of constructing a pruned multicast tree (Figure 6, step 614) at a switch by propagation of dynamic cost information packets (Figure 6, step 604-606; col. 5, lines 51-60), and forwarding received multicast messages to other network devices according to the pruned multicast tree. However, Hurst does not disclose a broadcast tree. One skilled in the art would recognize that broadcasting is a type of multicasting where messages are sent to every port rather than a select portion of the outgoing ports. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to broadcast packets and provide a pruned broadcast tree in the invention of Hurst in order to transmit to each outgoing port as necessary.

3. Regarding claim 23 and 26, the dynamic cost information packet is periodically updated (col. 5, lines 54-58).

Claims 2-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst et al. as applied to claim 1 above, and further in view of Allon et al. (US 5,539,883).

4. Regarding claims 2 and 12, Hurst discloses transmitting messages according to a pruned tree. However, Hurst does not disclose constructing the tree in response to an exchange of load balancing information. Allon discloses load balancing in a communications network by forming a pruned tree (abstract; Figures 3A-3C). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide for a computer load in the network of Hurst as evidenced by Allon in order to make efficient use of multiple computers connected to the network (Allon, col. 1, lines 19-27).

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5. Regarding claims 3-4 and 13-14, Allon discloses receiving a request packet and adding a port to the tree (Figure 1B, steps REQUEST PARENT and CREATE LINK TO m) or deleting the port on the tree (Figure 1B, steps DISENGAGE(r)?, CLEAR PARENT FIELD, and PRUNE CR).

6. Regarding claim 5 and 15, Hurst discloses the packet as a cost acknowledgement packet (col. 5, lines 51-60).

7. Regarding claim 7 and 17, Hurst in view of Allon does not disclose forwarding packets outside of the load balance domain. One skilled in the art would recognize that transmitting messages outside of a private network is preferable in order to communicate across large distances or communicate with other users of different networks. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to transmit packets outside of the load balancing domain in the inventions of Hurst in view of Allon.

8. Regarding claim 8 and 18, Hurst discloses detected and pruning a failed link (Figure 6, step 606, 612 and 616; col. 5, lines 51-53 and 60-67).

9. Regarding claim 9 and 19, Allon discloses adding ports to the tree (Figure 1B, step CREATE LINK TO m).

10. Regarding claim 10 and 20, Hurst in view of Allon does not disclose a switch notifying other packets of the failure. One skilled in the art would recognize that typically a node finds a best path (i.e. least-cost) from source to a destination and that a failure in the path will cause the path to be invalid. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to exchange failure information in the invention of Hurst and Allon in order for a node to determine a new best path from a source to a destination.

Allowable Subject Matter

11. Claims 21 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

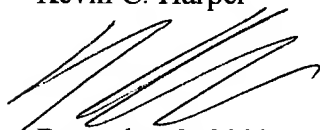
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 703-305-0139. The examiner can normally be reached weekdays, except Wednesday, from 9:30 AM to 8:00 PM ET.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao, can be reached at 703-308-5463. The fax number for Technology Center (TC) 2600 is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service Office for TC 2600 at 703-306-0377.

Kevin C. Harper



December 2, 2002



DANG TON
PRIMARY EXAMINER